

A11101 986631

NAT'L INST OF STANDARDS & TECH R.I.C.



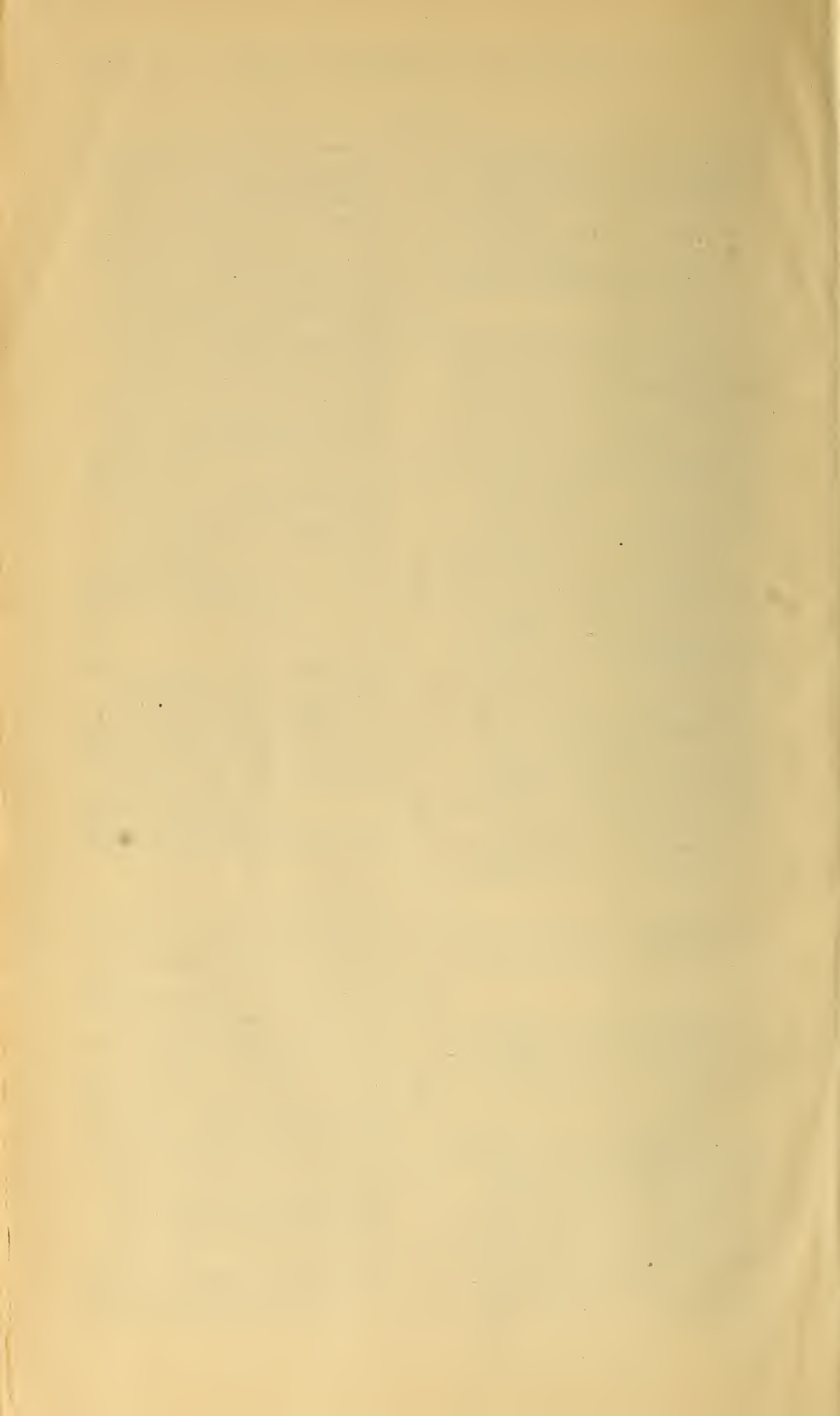
A11101986631

/Bureau of Standards journal of research
QC1 .U52 V4;129-182;1930 C.2 NBS-PUB-C 1

INDEX TO VOLUME 4

| A | Page | | Page |
|--|------|---|------|
| Absorption, difficult, gas analysis pipette for..... | 747 | Broadcasting stations, method and apparatus | |
| hollow-tile..... | 815 | used in testing piezo oscillators for..... | 115 |
| Absorption of sound at oblique angles of incidence..... | 289 | Bromine spectrum..... | 667 |
| <i>Adelson, J. S., E. O. Seaquist, H. L. Whittemore and</i> , Physical properties of electrically-welded steel tubing..... | 475 | <i>Brooks, H. B.</i> , Sensitivity of a galvanometer as a function of resistance..... | 297 |
| Aggregate recoil of α particles..... | 595 | <i>Bunting, E. N.</i> , Phase equilibria in the system $\text{SiO}_2\text{-ZnO}$ | 131 |
| Agricultural wastes..... | 329 | | |
| Aircraft, engine-ignition shielding for radio reception in..... | 415 | C | |
| Aircraft radio..... | 371 | Cæsium vapor, the neutralization of space charge by positive ions in..... | 157 |
| Aircraft radio, a 12-course radio range for guiding aircraft with tuned-reed visual indication..... | 351 | Calorimetry of a fluid..... | 609 |
| Aircraft, radio for guiding, on civil airways..... | 425 | <i>Came, C. L.</i> , Durability tests of spar varnish..... | 247 |
| Aircraft, radio range, a tuned-reed course indicator for the 4 and 12 course..... | 461 | Camera for photographing α -ray tracks..... | 663 |
| Aircraft, use of radio on, for course navigation on the civil airways..... | 425 | Carbohydrates..... | 329 |
| Air navigation facilities..... | 371 | <i>Carroll, Burt H., and Donald Hubbard</i> , Spectral sensitization of photographic emulsions. Notes on bathing with pinacyanol-pinaflavol mixtures..... | 693 |
| Airways, applying the visual double-modulation type radio range to the..... | 265 | Cast iron for enameling..... | 757 |
| civil, use of radio on..... | 425 | Cast iron for enameling, distribution and condition of carbon..... | 757 |
| 12-course type radio range for guiding aircraft along the..... | 351 | effect of added elements..... | 757 |
| Aluminous silicates, analysis of..... | 809 | importance of surface layer..... | 757 |
| Aluminum and several other metals, ultraviolet reflecting power of..... | 189 | microchilled surface..... | 757 |
| Amberol varnish, durability of..... | 247 | spectroscopic examination..... | 757 |
| Analysis, gas..... | 747 | Cellulose..... | 329 |
| Analysis of α -ray tracks..... | 663 | Cement, mixtures, Portland, influence of magnesia, ferric oxide, and soda upon the temperature of liquid formation in certain..... | 55 |
| Apparatus, a simple control stopcock for gas analysis..... | 23 | Ceramics, analysis of silicates..... | 809 |
| Aqueous solutions, heat capacities in some..... | 313 | Ceramic materials, analysis of..... | 809 |
| Arc spectrum of Br..... | 667 | Chemical analysis, the effect of light on silver chloride in..... | 109 |
| Arc spectrum of hafnium (Hf.), regularities in the..... | 169 | Chloride, silver, the effect of light on, in chemical analyses..... | 109 |
| | | <i>Chrisler, V. L., W. F. Snyder, P. R. Heyl and</i> , The absorption of sound at oblique angles of incidence..... | 289 |
| B | | Chromatic luminosity coefficients..... | 515 |
| Bauxite, analysis of..... | 809 | Chromium plating, throwing power in..... | 27 |
| Beacon, a 12-course directive radiobeacon for guiding aircraft..... | 351 | Civil airways, a 12-course radio range for guiding aircraft along..... | 351 |
| development of visual type directive radiobeacon system..... | 425 | radio aids applied to..... | 425 |
| Beams..... | 395 | Clays, analysis of..... | 809 |
| concrete and hollow-tile..... | 815 | <i>Coblentz, W. W., and R. Stair</i> , Ultra-violet reflecting power of aluminum and several other metals..... | 189 |
| <i>Bean, Howard S.</i> , An apparatus and method for determining the compressibility of a gas and the correction for "supercompressibility"..... | 645 | Color mixtures..... | 515 |
| <i>Beek, John, jr., E. L. Wallace and</i> , A comparison of the quinhydrone and hydrogen electrodes in solutions containing tannin..... | 737 | Color sensitization..... | 693 |
| <i>Bicking, George W., Merle B. Shaw and</i> , Rayon as a paper-making material..... | 203 | Color specifications, computation of..... | 515 |
| Bituminous materials, resins, ring and ball method of test for softening point of..... | 195 | Color stimuli, reduction of data on mixture of..... | 515 |
| Blisters in enameled ironware, alleged sources..... | 757 | Color vision..... | 515 |
| determined sources..... | 757 | Concrete slabs, tests of..... | 815 |
| gas evolution in firing process..... | 757 | Conduction, heat, theory..... | 757 |
| <i>Blum, W., H. L. Farber and</i> , Throwing power in chromium plating..... | 27 | thermal, theory..... | 757 |
| Bodies, effect of small changes in temperature on the properties of..... | 137 | Compressibility of a gas..... | 645 |
| Boiler plugs, reliability of, in service..... | 1 | Cottonseed..... | 329 |
| Boyle's law, departures from..... | 645 | Cottonseed hull bran..... | 329 |
| <i>Brattain, W. H., V. E. Heaton and</i> , Design of a portable temperature-controlled piezo oscillator..... | 345 | Cottonseed hulls..... | 329 |
| Brittleness, secondary, tensile properties of rail and some other steels at elevated temperatures..... | 549 | Counter, a convenient form of Geiger tube..... | 593 |
| | | Currents, notes on the design of 4-terminal resistance standards for alternating..... | 73 |
| | | <i>Curtiss, L. F.</i> , A convenient form of Geiger tube counter..... | 593 |
| | | —, A new method of analyzing α -ray photographs..... | 663 |
| | | —, Probability of fluctuations in the rate of emission of α particles..... | 595 |
| | | —, The sensitive surface of the Geiger tube electron counter..... | 601 |
| | | Cylinder, vibration of..... | 383 |

| D | Page | G | Page |
|--|------|---|------|
| Dead-weight testing machine of 100,000 pounds capacity..... | 261 | Galvanometer, sensitivity of, as a function of its resistance..... | 297 |
| <i>de Bruin, T. L., C. C. Kiess and</i> , The arc spectrum of bromine and its structure..... | 667 | <i>Gardner, F. G., H. Diamond and</i> , Engine-ignition shielding for radio reception in aircraft..... | 415 |
| <i>Dellinger, J. H., H. Diamond, and F. W. Dunmore</i> , Development of the visual type radio beacon system..... | 425 | Gas analysis..... | 747 |
| Design of Geiger tube counter..... | 593 | Gas analysis apparatus, a simple control stopcock for..... | 23 |
| <i>Diamond, H.</i> , Applying the visual double-modulation type radio range to the airways..... | 265 | Gas, compressibility of a..... | 645 |
| —, <i>F. W. Dunmore, J. H. Dellinger and</i> , Development of the visual type radio beacon systems..... | 425 | Geiger tube counter..... | 593 |
| —, and <i>F. G. Gardner</i> , Engine-ignition shielding for radio reception in aircraft..... | 415 | Geiger tube electron counter..... | 601 |
| —, and <i>F. G. Kear</i> , A 12-course radio range for guiding aircraft with tuned-reed visual indication..... | 351 | H | |
| Diophantine quantities, principles of measurement and of calculation in their application to the determination of..... | 221 | H-section column splices..... | 395 |
| Directive radio beacon, a 12-course type for guiding aircraft..... | 351 | Hafnium (Hf), regularities in the arc spectrum of..... | 169 |
| Dosage, X-ray..... | 631 | <i>Hall, E. L.</i> , Method and apparatus used in testing piezo oscillators for broadcasting stations..... | 115 |
| <i>Dunmore, F. W.</i> , A tuned-reed course indicator for the 4 and 12 course aircraft radio range..... | 461 | <i>Hall, W. L., C. S. Slater, and S. F. Acree</i> , Preliminary investigations upon two cellulosic waters as sources for xylose..... | 329 |
| —, <i>H. Diamond, J. H. Dellinger and</i> , Development of the visual type radio beacon system..... | 425 | <i>Hansen, W. C.</i> , Influence of magnesia, ferric oxide, and soda upon the temperature of liquid formation in certain Portland cement mixtures..... | 55 |
| Durability of clear varnish..... | 247 | <i>Harrison, W. N., A. I. Krynskiy and</i> , Blistering phenomena in the enameling of cast iron..... | 757 |
| Durability of varnish..... | 247 | Heat capacities in some aqueous solutions..... | 313 |
| Durability of vinyl resins films..... | 247 | Heat conduction theory..... | 753 |
| Dyes, photographic sensitizing..... | 693 | <i>Heaton, V. E., and W. H. Brattain</i> , Design of a portable temperature-controlled piezo oscillator..... | 345 |
| E | | <i>Hersey, Mayo D.</i> , Effect of small changes in temperature on the properties of bodies..... | 137 |
| <i>Edwards, James H., H. L. Whittemore, and A. H. Stang</i> , Transverse test of H-section column splices..... | 395 | <i>Hoffman, J. I., G. E. F. Lundell and</i> , The effect of light on silver chloride in chemical analyses..... | 109 |
| Effect of service on endurance properties of rail steel at elevated temperatures..... | 549 | Hollow tile and concrete beams and slabs..... | 815 |
| Electron counter, Geiger tube..... | 601 | <i>Hubbard, Donald, Burt H. Carroll and</i> , Spectral sensitization of photographic emulsions. Notes on bathing with pinacynol-pinacynol mixtures..... | 693 |
| Electrically welded steel tubing, tests of..... | 475 | <i>Hund, August, and R. B. Wright</i> , New piezo oscillations with quartz cylinders cut along the optical axis..... | 383 |
| Elevated temperatures, tensile properties of rail and some other steels at elevated temperatures..... | 549 | <i>Heyl, P. R., V. L. Chrisler, and W. F. Snyder</i> , The absorption of sound at oblique angles of incidence..... | 289 |
| Endurance, special rail steels..... | 851 | Hydrogen sulphide from vulcanized rubber, evolution of..... | 501 |
| Equilibria system $\text{SiO}_2\text{-ZnO}$ | 131 | Hydrolyses..... | 329 |
| Ester gum varnish, durability of..... | 247 | I | |
| Experiments on sensitive surface of Geiger tube counter..... | 601 | Indicator, tuned-reed, for visual type directive radio beacon..... | 425 |
| F | | Ionometer, calibration of..... | 631 |
| Fahy simplex permeameter, performance of the..... | 703 | J | |
| <i>Farber, H. L., and W. Blum</i> , Throwing power in chromium plating..... | 27 | <i>Jackson, W. E., F. G. Kear and</i> , Applying the radio range to the airways..... | 371 |
| Fatigue, endurance properties of special rail steels..... | 851 | Joints, welded..... | 395 |
| Feldspars, analysis of..... | 809 | <i>Judd, Deane B.</i> , Reduction of data on mixture of color stimuli..... | 515 |
| Ferric oxide, influence of, upon the temperature of liquid formation in certain Portland cement mixtures..... | 55 | K | |
| <i>Finn, A. N., and J. F. Klekotka</i> , On a modified method for decomposing aluminous silicates for chemical analysis..... | 809 | Kauri gum varnish, durability of..... | 247 |
| Floor slabs, tests of..... | 815 | <i>Kear, F. G., H. Diamond and</i> , A 12-course radio range for guiding aircraft with tuned-reed visual indication..... | 351 |
| Fluctuations in rate of emission of a particles..... | 595 | —, and <i>W. E. Jackson</i> , Applying the radio range to the airways..... | 371 |
| <i>France, R. D., John R. Freeman, jr., and</i> , Endurance properties of some special rail steels..... | 851 | <i>Kiess, C. C., and T. L. de Bruin</i> , The arc spectrum of bromine and its structure..... | 667 |
| <i>Freeman, John R., jr., and R. D. France</i> , Endurance properties of some special rail steels..... | 851 | <i>Klekotka, J. F., A. N. Finn and</i> , On a modified method for decomposing aluminous silicates for chemical analysis..... | 809 |
| —, <i>J. A. Scherrer, and J. Rosenberg</i> , Reliability of fusible tin boiler plugs in service..... | 1 | <i>Krynskiy, A. I., and W. N. Harrison</i> , Blistering phenomena in the enameling of cast iron..... | 757 |
| —, and <i>G. Willard Quick</i> , Tensile properties of rail and some other steels at elevated temperatures..... | 549 | | |
| Furfural..... | 329 | | |
| Furnace for temperatures up to $2,500^\circ\text{C}$. in an oxidizing atmosphere..... | 131 | | |
| Furnace, rhodium wire resistance unit..... | 131 | | |
| Fusible plugs, reliability of..... | 1 | | |



L

| | Page |
|---|------|
| <i>Langer, R. M., and William F. Meggers,</i> | |
| Light scattering in liquids..... | 711 |
| Lacquer, clear, durability of..... | 247 |
| Light scattering in liquids..... | 711 |
| Liquid formation in certain Portland cement mixtures, influence of magnesia, ferric oxide, and soda upon the temperatures of..... | 55 |
| Liquids, light scattering in..... | 711 |
| <i>Lundell, G. E. F., and J. I. Hoffman,</i> The effect of light on silver chloride in chemical analyses..... | 109 |

M

| | |
|--|-----|
| Magnesia, influence of, upon the temperature of liquid formation in certain Portland cement mixtures..... | 55 |
| Magnetic permeameters, standards for testing..... | 177 |
| Magnetic testing, Fahy simplex permeameter..... | 703 |
| Measurement of heat content of fluids..... | 609 |
| Measurement of heat vaporization of fluids..... | 609 |
| Measurement of thermal properties of fluids..... | 609 |
| Measurement, X-ray..... | 631 |
| <i>Meggers, William F., and Bourdon F. Scribner,</i> Regularities in the arc spectrum of hafnium (Hf)..... | 169 |
| —, <i>R. M. Langer and,</i> Light scattering in liquids..... | 711 |
| Melting point of zinc orthosilicate..... | 131 |
| Melting point of zinc oxide..... | 131 |
| <i>Moon, Charles,</i> A precision method of calibrating a tuning fork by comparison with a pendulum..... | 203 |

N

| | |
|---|-----|
| Neutralization, the, of space charge by positive ions in caesium vapor..... | 157 |
|---|-----|

O

| | |
|---|-----|
| <i>Osborne, Nathan S.,</i> Calorimetry of a fluid..... | 609 |
| Oscillations, piezo-electric..... | 383 |
| torsional..... | 383 |
| Oscillators, piezo design of portable temperature-controlled..... | 345 |
| Oxygen, analytical absorption..... | 747 |

P

| | |
|--|-----|
| <i>Parsons, D. E., and A. H. Stang,</i> Tests of composite beams and slabs of hollow tile and concrete..... | 815 |
| Peanut hulls..... | 329 |
| Pendulum, precision method of calibrating a tuning fork by comparison with..... | 213 |
| Pentoses..... | 329 |
| Permeameter, Fahy simplex..... | 703 |
| Permeameters, magnetic, standards for testing..... | 177 |
| <i>Petrenko, Serge N., Herbert L. Whittemore, L. B. Tuckerman and,</i> A new dead-weight testing machine of 100,000 pounds capacity..... | 261 |
| Phase equilibria system $\text{SiO}_2\text{-ZnO}$ | 131 |
| Photographing α -ray tracks, camera for..... | 663 |
| Photographic emulsions..... | 693 |
| Piezo oscillators for broadcasting stations, methods and apparatus used in testing..... | 115 |
| Piezo oscillators, temperature-controlled, design of..... | 345 |
| Pinacyanol mixtures, notes on bathing with..... | 693 |
| Pinaflavol mixtures, notes on bathing with..... | 693 |
| Plugs, boiler, reliability of, in service..... | 1 |
| reliability of fusible..... | 1 |
| Plates, splice..... | 395 |
| Plating, chromium, throwing power in..... | 27 |
| Portland cement mixtures, influence of magnesia, ferric oxide, and soda upon the temperature of liquid formation in certain..... | 55 |
| Precision method of calibrating a tuning fork by comparison with a pendulum..... | 213 |
| Probability emission of particles..... | 595 |
| Properties of bodies, effect of small changes in temperature on the..... | 137 |

Q

| | |
|---|-----|
| Quartz cylinder, piezo-electric..... | 383 |
| <i>Quick, G. Willard, John R. Freeman, jr., and,</i> Tensile properties of rail and some other steels at elevated temperatures..... | 549 |
| Quinhydrone and hydrogen electrodes in solutions containing tannin, a comparison of the..... | 737 |

R

| | |
|--|-----|
| Radio, a 12-course radio range for guiding aircraft..... | 351 |
| development of visual type directive radio-beacon system..... | 425 |
| Radio range..... | 371 |
| applying the visual double-modulation type, to the airways..... | 265 |
| a tuned-reed course indicator for the 4 and 12-course aircraft..... | 461 |
| a 12-course type for guiding aircraft..... | 351 |
| development of visual type..... | 425 |
| Radio reception in aircraft, engine-ignition shielding for..... | 415 |
| Radiobeacon, development of visual type..... | 425 |
| a 12-course directive type for guiding aircraft..... | 351 |
| Radiobeacons..... | 371 |
| Rail steels, endurance properties of..... | 851 |
| Rail, tensile properties of rail and some other steels at elevated temperatures..... | 549 |
| Rayon as a paper-making material..... | 203 |
| Recoil of α particles..... | 595 |
| Reduction of data on mixture of color stimuli..... | 515 |
| Reflecting power, ultra-violet, of aluminum and several other metals..... | 189 |
| Refractories, analysis of..... | 809 |
| Reliability of fusible plugs..... | 1 |
| Resin, vinyl, durability of films..... | 247 |
| Resins and similar substances, ring and ball method of test for softening point of..... | 195 |
| Resistance of a galvanometer coil, effect of, on the sensitivity..... | 297 |
| Ring and ball method of test for softening point of bituminous materials, resins, and similar substances..... | 195 |
| <i>Rosenberg, J., J. A. Scherrer, John R. Freeman, jr., and,</i> Reliability of fusible tin boiler plugs in service..... | 1 |
| <i>Rossini, Frederick D.,</i> Heat capacities in some aqueous solutions..... | 313 |

S

| | |
|--|-----|
| <i>Sanford, Raymond L.,</i> Performance of the Fahy simplex permeameter..... | 703 |
| —, Standards for testing magnetic permeameters..... | 177 |
| <i>Scherrer, J. A., J. Rosenberg, John R. Freeman, jr., and,</i> Reliability of fusible tin boiler plugs in service..... | 1 |
| <i>Scribner, Bourdon F., William F. Meggers and,</i> Regularities in the arc spectrum of hafnium (Hf)..... | 169 |
| <i>Sequist, E. O., J. S. Adelson, H. L. Whittemore and,</i> Physical properties of electrically welded steel tubing..... | 475 |
| Sensitivity of a galvanometer as a function of its resistance..... | 297 |
| Sensation curves for color..... | 515 |
| Series in Br I..... | 667 |
| <i>Shaw, Merle B., and George W. Bicking,</i> Rayon as a paper-making material..... | 203 |
| Shafting, tubular, tests of..... | 475 |
| Shatter cracks, tensile properties of rail and other steels at elevated temperatures..... | 549 |
| <i>Shephard, Martin,</i> A gas analysis pipette for difficult absorptions..... | 747 |
| —, A simple control stopcock for gas analysis apparatus..... | 23 |
| Silica, system $\text{SiO}_2\text{-ZnO}$ | 131 |
| Silicates, analysis of..... | 809 |
| decomposition of, for analysis..... | 809 |
| <i>Silsbee, Francis B.,</i> Notes on the design of 4-terminal resistance standards for alternating currents..... | 73 |
| Silver chloride in chemical analysis, the effect of light on..... | 109 |

| | Page | | Page |
|--|------|--|------|
| <i>Singer, G., Lauriston S. Taylor and, The calibration of the "Fingerhut" ionization chamber</i> | 631 | Tube counter, a convenient form of Geiger.. | 593 |
| <i>Snyder, W. F., V. L. Christer, P. R. Heyland, The absorption of sound at oblique angles of incidence</i> | 289 | Tubing, steel, tests of..... | 475 |
| Soda, influence of, upon the temperature of liquid formation in certain Portland cement mixtures..... | 55 | <i>Tuckerman, L. B., Herbert L. Whittemore, and Serg N. Petrenko, A new dead-weight testing machine of 100,000 pounds capacity</i> | 261 |
| Softening point of bituminous materials, resins, and similar substances, the ring and ball method of test for..... | 195 | Tuned-reed indicator, a 12-course radio range for guiding aircraft..... | 351 |
| Solutions, aqueous, heat capacities in some..... | 313 | Tuned-reed course indicator for the 4 and 12 course aircraft radio range..... | 461 |
| Solutions containing tannin, comparison of the quinhydrone and hydrogen electrodes in..... | 737 | Tuning fork, precision method of calibrating, by comparison with a pendulum..... | 213 |
| Sound, absorption of, at oblique angles of incidence..... | 289 | Twelve-course radio range, a..... | 351 |
| Space charge, the neutralization of, by positive ions in caesium vapor..... | 157 | U | |
| Specification of color..... | 515 | Ultra-violet reflecting power of aluminum and several other metals..... | 189 |
| Spectral sensitizations..... | 693 | V | |
| Spectral structure of Br I..... | 667 | <i>Van Dusen, M. S., Note on the theory of heat conduction</i> | 753 |
| Spectrum of Br..... | 667 | Varnish, accelerated tests of..... | 247 |
| Spectrum of hafnium (Hf), regularities in the arc..... | 169 | durability of..... | 247 |
| <i>Stang, A. H., D. E. Parsons and, Tests of composite beams and slabs of hollow tile and concrete</i> | 815 | durability of amberol and china-wood oil..... | 247 |
| —, <i>H. L. Whittemore, James H. Edwards, and, Transverse tests of H-section column splices</i> | 395 | durability of ester gum and china-wood oil..... | 247 |
| <i>Stair, R., W. W. Coblenz and, Ultra-violet reflecting power of aluminum and several other metals</i> | 189 | durability of ester gum-linseed oil..... | 247 |
| Standards for alternating currents, notes on the design of 4-terminal..... | 73 | durability of Kauri gum-linseed oil..... | 247 |
| Standards for testing magnetic permeameters. Steam, method of surveying thermal behavior of..... | 177 | durability of rosin and china-wood oil..... | 247 |
| Steel tubing, tests of..... | 609 | durability of rosin-linseed oil..... | 247 |
| Steels, special rail..... | 475 | Vibrations, piezo-electrically excited..... | 333 |
| Stimuli, color, reduction on data on mixture of..... | 515 | torsional..... | 333 |
| Stopecock, a simple control, for gas analysis apparatus..... | 23 | Vinyl resin films, durability of..... | 247 |
| Structural tubing, tests of..... | 475 | Vitreous enamels, composition and application of certain types..... | 757 |
| Structure of Br spectrum..... | 667 | continuity of applied first coat..... | 757 |
| Sugar..... | 329 | heating curve..... | 757 |
| Supercompressibility, corrections for..... | 645 | Vulcanized rubber, evolution of hydrogen sulphide from..... | 501 |
| Surveying thermal behavior of steam, method of..... | 609 | instability of..... | 501 |
| T | | thermal decomposition of..... | 501 |
| <i>Taylor, Lauriston S., and G. Singer, The calibration of the "Fingerhut" ionization chamber</i> | 631 | W | |
| Temperature control of piezo oscillators..... | 345 | <i>Washburn, Edward W., The principles of measurement and of calculation in their application to the determination of diophantine quantities</i> | 221 |
| Temperature on the properties of bodies, effect of small changes in..... | 137 | <i>Wallace, E. L., and John Beek, jr., A comparison of the quinhydrone and hydrogen electrodes in solutions containing tannin</i> | 737 |
| Tensile properties of rail and some other steels at elevated temperatures..... | 549 | <i>Walker, Percy R., The ring-and-ball method of test for softening point of bituminous materials, resins, and similar substances</i> | 195 |
| Testing machine of 100,000 pounds capacity, a new dead-weight..... | 261 | Welded-steel tubing, tests of..... | 475 |
| Testing magnetic permeameters, standards for..... | 177 | Welding..... | 395 |
| Testing piezo oscillators for broadcasting stations, methods and apparatus used in..... | 115 | Welding, tests of tubing electrically welded under pressure by the resistance method..... | 475 |
| Tests, accelerated, of varnish..... | 247 | <i>Whittemore, Herbert, L., Serge N. Petrenko, L. B. Tuckerman and, A new dead-weight testing machine of 100,000 pounds capacity</i> | 261 |
| durability, of varnish..... | 247 | — <i>J. S. Adelson, E. O. Seaquist and, Physical properties of electrically welded steel tubing</i> | 475 |
| Tests of composite beams and slabs of hollow tile and concrete..... | 815 | — <i>A. H. Stang, James H. Edwards and, Transverse tests of H-section column splices</i> | 395 |
| Tests of H-section column splices..... | 395 | <i>Whitman, V. E., The neutralization of space charge by positive ions in caesium vapor</i> | 157 |
| Tests of steel tubing..... | 475 | <i>Wolesensky, Edward, Evolution of hydrogen sulphide from vulcanized rubber</i> | 501 |
| Thermal conduction, theory..... | 753 | Wood sugar..... | 329 |
| Thermal properties of steam..... | 609 | <i>Wright, R. B., August Hund and, New piezo oscillations with quartz cylinders cut along the optical axis</i> | 383 |
| Thimble chamber, calibration of..... | 631 | X | |
| Throwing power in chromium plating..... | 27 | X-ray standardization..... | 631 |
| Tile and concrete beams and slabs..... | 815 | Xylans..... | 329 |
| Tin boiler plugs, reliability of, in service..... | 1 | Xylose..... | 329 |
| Transverse fissures, tensile properties of rail and some other steels at elevated temperatures..... | 549 | Z | |
| Transverse strength of H-section column splices..... | 395 | Zinc oxide, melting point of..... | 131 |
| Triple-modulated type radio range producing 12 beacon courses for guiding aircraft..... | 351 | system, ZnO ₂ -SiO ₂ | 131 |
| | | Zinc silicate, melting point of..... | 131 |

BUREAU OF STANDARDS JOURNAL OF RESEARCH

CONTENTS OF RECENT NUMBERS—Continued

March, 1930 (Vol. 4, No. 3)

- RP152. Preliminary investigations upon two cellulosic wastes as sources for Xylose. W. L. Hall, C. S. Slater, and S. F. Acree.
- RP153. Design of a portable temperature-controlled piezo oscillator. V. E. Heaton and W. H. Brattain.
- RP154. A 12-course radio range for guiding aircraft with tuned reed visual indication. H. Diamond and F. G. Kear.
- RP155. Applying the radio range to the airways. F. G. Kear and W. E. Jackson.
- RP156. New piezo oscillations with quartz cylinders cut along the optical axis. August Hund and R. B. Wright.
- RP157. Transverse tests of H-section column splices. James H. Edwards, H. L. Whittemore, and A. H. Stang.
- RP158. Engine-ignition shielding for radio reception in aircraft. H. Diamond and F. G. Gardner.
- RP159. Development of the visual type radiobeacon system. J. H. Dellinger, H. Diamond, and F. W. Dunmore.

April, 1930 (Vol. 4, No. 4)

- RP160. A tuned-reed course indicator for the 4 and 12 course aircraft radio range. F. W. Dunmore.
- RP161. Physical properties of electrically welded steel tubing. H. L. Whittemore, J. S. Adelson, and E. O. Seaquist.
- RP162. Evolution of hydrogen sulphide from vulcanized rubber. Edward Wolesensky.
- RP163. Reduction of data on mixture of color stimuli. Deane B. Judd.
- RP164. Tensile properties of rail and some other steels at elevated temperatures. John R. Freeman, jr., and Willard Quick.
- RP165. A convenient form of Geiger tube counter. L. F. Curtiss.
- RP166. Probability of fluctuations in the rate of emission of α particles. L. F. Curtiss.

May, 1930 (Vol. 4, No. 5)

- RP167. The sensitive surface of the Geiger tube electron counter. L. F. Curtiss.
- RP168. The calorimetry of a fluid. Nathan S. Osborne.
- RP169. The calibration of the "fingerhut" ionization chamber. Lauriston S. Taylor and G. Singer.
- RP170. An apparatus and method for determining the compressibility of a gas and the correction for "supercompressibility." Howard S. Bean.
- RP171. A new method of analyzing α -ray photographs. L. F. Curtiss.
- RP172. The arc spectrum of bromine and its structure. C. C. Kiess and T. L. deBruin.
- RP173. Spectral sensitization of photographic emulsions. Notes on bathing with pinacyanol-pinaflavol mixtures. Burt H. Carroll and Donald Hubbard.
- RP174. Performance of the Fahy simplex permeameter. Raymond L. Sanford.
- RP175. Light scattering in liquids. R. M. Langer and William F. Meggers.

76
C/3.

A monthly periodical of pure and applied science
published by our National Government

BUREAU OF STANDARDS JOURNAL OF RESEARCH

PUBLISHED AT WASHINGTON, D. C.

¶ With the July issue, the JOURNAL began its second year and third volume. The JOURNAL contains the bureau's research papers and critical reviews in the fields of science and technology. These will be comparable in interest and importance with the bureau papers already issued.

¶ Several hundred researches are always in progress at the Bureau of Standards and the outlet for the results is the "BUREAU OF STANDARDS JOURNAL OF RESEARCH."

¶ If you are interested in following the latest developments in science and technology you need the BUREAU OF STANDARDS JOURNAL OF RESEARCH. If you are a subscriber, renew your subscription promptly; if not, your subscription will be appreciated. Copies are limited and it is not always possible to supply back numbers.

PRICES

New subscription (or renewal)¹ to Journal of Research
for United States, Canada, Cuba, Mexico, Newfound-
land, and the Republic of Panama \$2.75*

Blue buckram bound { Volume 1, July to December, 1928 \$2.75*
 { Volume 2, January to June, 1929 \$2.75*

¹Yearly subscription, 12 issues.

*For other countries, add 75 cents.

Research papers (printed separately with durable paper cover
and priced according to cost) see list of research papers on
cover pages 2 and 3 of this issue.

Address orders only to
Superintendent of Documents
Government Printing Office
Washington, D. C.

*The value of prompt and adequate news of the latest research results
can not be measured by ordinary standards. They are permanent
gainful assets for the expert. He can hardly afford
to be without such basic sources*

